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385

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ENVIRONMENTAL

ATTN: Information Technology Unit
California Regional Water Quality Control Board
Los Angeles Region (RWQCB)
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject:
Fourth Quarter 2004 Discharge Monitoring Report
Waste Discharge Requirements Order Number R4-2002-0030 (Series 007)
Compliance File Number CI-95-036, SLIC 0410
Project Site: Former Boeing C-6 Facility (Building 2 Area), Los Angeles, California

Date:
January 26, 2005

Contact:
Barry Molnaa

Phone:
3023

Email:
bmolnaa@arcadis-us.com

Project Number:
CA000594.0006.00007

Dear Information Technology Unit:

On behalf of Boeing Realty Corporation (BRC), ARCADIS is submitting this quarterly monitoring report per the Waste Discharge Requirements (WDR) Order Number R4-2002-0030 (Series 007). The purpose of this report and future WDR reports is to provide the Los Angeles Regional Water Quality Control Board (RWQCB) with a summary of amendment and monitoring activities performed at the referenced project site. The site is located at 19503 Normandie Avenue. Figures 1 and 2 illustrate the site location and the site layout, respectively.

This monitoring report summarizes groundwater amendment and monitoring activities performed during the fourth quarter of 2004. Activities performed to test the amendment system are summarized in Section 1.0. Groundwater monitoring activities performed to evaluate the initial distribution of amendment solution are summarized in Section 2.0. A certification statement is provided in Section 3.0.

1.0 Amendment Activities

On December 15 and 16, 2004, an Alternate Donor Injection Test was performed to obtain injection parameters for potential alternate electron donors. A total of 10,424 gallons of 4 percent low-protein, powdered cheese whey was injected into the amendment wells at Vault 3, and a total of 9,089 gallons of 3 percent sodium lactate solution was injected into the amendment wells at Vault 3. After the alternate solution was injected, the amendment wells were flushed with 405 gallons of water. Amendment solution was not injected into any other amendment wells or vaults during the fourth quarter. A report summarizing the Alternate Donor Injection Test is currently being prepared for submittal to the RWQCB.

2.0 Monitoring Activities

During the fourth quarter of 2004, Week 2 and Week 6 post-injection groundwater monitoring was conducted as per the WDR monitoring schedule (sample Week 2, Week 6, Week 12, Week 16, Week 21, and Week 36 after first injection). Supplemental groundwater monitoring was also performed prior to Week 2 and after Week 6 of post-injection monitoring.

Prior to Week 2 of post-injection groundwater monitoring, supplemental groundwater monitoring was performed to evaluate the progress of amendment solution injection activities. The supplemental monitoring was performed on October 12, 2004 and at eleven monitoring wells (IRZMW001A/B, IRZMW002A/B, IRZMW003A/B, IRZMW005, IRZMW005, IRZCMW001, IRZCMW002, and IRZCMW003) (Figure 2). Groundwater samples from these eleven wells were analyzed for total organic carbon (TOC). Field parameters of purged groundwater were also collected (i.e. pH, dissolved oxygen [DO], oxidation-reduction potential [ORP], specific conductance, and temperature).

Week 2 post-injection groundwater monitoring was conducted on October 21 and 22, 2004. During Week 2 of post-injection monitoring, one amendment point (IRZB0095) and seven monitoring wells (IRZBMW001A/B, IRZBMW002A/B, IRZMW005, IRZCMW001, and CMW026) were gauged and sampled (Figure 2). Amendment point IRZB0081 was gauged, but excessive foam in the amendment point prevented the well from being sampled with a submersible pump and a weighted disposable bailer. The groundwater samples from Week 2 post-injection monitoring were analyzed for TOC. Field parameters of purged groundwater were also collected (i.e. pH, DO, ORP, specific conductance, and temperature).

Week 6 post-injection groundwater monitoring was conducted on November 18 and 19, 2004. During Week 6 of post-injection monitoring, two amendment points (IRZB0081 and IRZB0095) and seven monitoring wells (IRZBMW001A/B, IRZBMW002A/B, IRZMW005, IRZCMW001, and CMW026) were gauged and sampled (Figure 2). The groundwater samples from Week 6 post-injection monitoring were analyzed for volatile organic carbons (VOC), TOC, bromide, dissolved manganese, nitrate, sulfate, and permanent gases (DO, carbon dioxide, nitrogen, methane, ethane, and ethene). Field parameters of purged groundwater were also collected (i.e. pH, DO, ORP, specific conductance, and temperature).

After Week 6 of post-injection groundwater monitoring, supplemental groundwater monitoring was performed to evaluate the progress of the Alternate Donor Injection

Test. The supplemental groundwater monitoring was performed on December 14, 2004 and at wells IRZB0081, IRZB0095, IRZMW004, and IRZMW005 (Figure 2). Groundwater samples from these four wells were analyzed for TOC and VOCs. Field parameters of purged groundwater were also collected (i.e. pH, DO, ORP, specific conductance, and temperature).

Field parameter data, laboratory analytical methods, and analytical results from the groundwater monitoring events are summarized in Tables 1 through 4. Laboratory analytical data with associated chain-of-custody documentation are provided in Appendix A. Sample collection logs with field parameter and monitoring well sampling data are maintained in the project files.

Prior to collecting the groundwater samples, depth to groundwater was measured in each monitoring well by using a water level meter accurate to 0.01 feet. Figure 3 shows the groundwater elevation contours for Zones B and C in October 2004. Groundwater samples were collected using low flow sampling techniques, so that the purge rate was generally less than 600 milliliters per minute (mL/min) and drawdown while purging was less than 1 foot. Since recharge of monitoring well IRZMW0002A does not support use of low flow sampling techniques, the monitoring well was purged dry prior to sampling.

The sampling methodology also involved use of a flow-through cell that houses field instrumentation used to measure groundwater stabilization parameters (i.e., temperature, pH, specific conductance, oxygen reduction potential, etc.). For each monitoring well, the flow-through cell was connected to a submersible pump with dedicated polyethylene tubing. Once the field parameters stabilized, groundwater samples were collected in laboratory-prepared containers. Field parameters and other relevant sampling data were documented on sample collection logs. The groundwater samples were transported in a chilled ice chest with chain-of-custody documentation and to an analytical laboratory certified by the State of California (Severn Trent Laboratories, Inc.).

3.0 Certification Statement

I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate and complete. I am aware that

there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments regarding this discharge monitoring report, please contact Barry Molnaa or David Poley at (714) 278-0992.

Sincerely,

ARCADIS G&M, Inc.

David G. Poley
Project Scientist

Trent Henderson, P.E.
Site Evaluation & Remediation
Department Manager

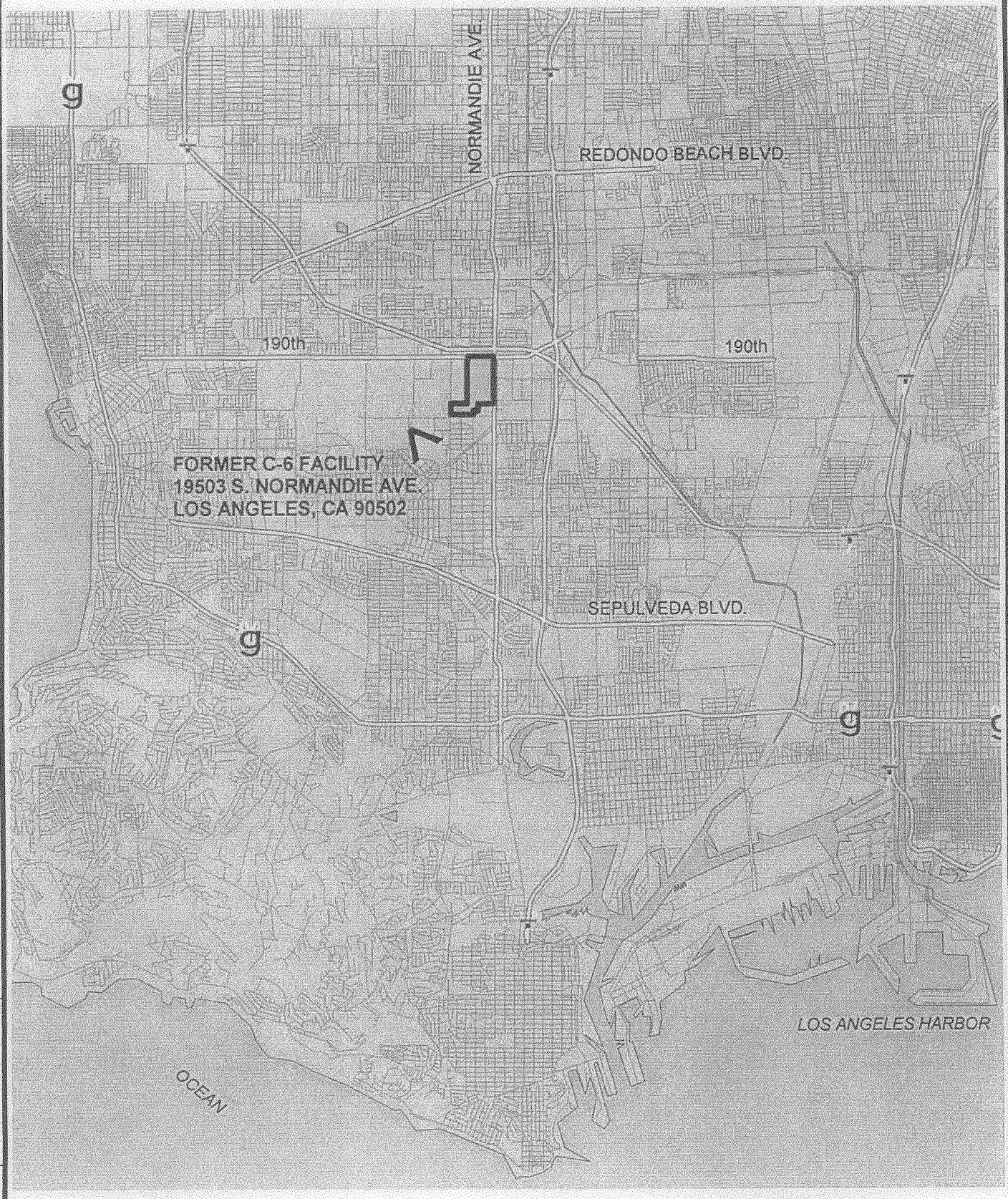
Barry Molnaa
Project Manager

Copies:
Stephanie Sibbett-Brutocao, Boeing Realty Corporation
Scott Zachary, Haley & Aldrich
Project File

Enclosures:
Figure 1 - Site Location
Figure 2 - Amendment Point and Monitoring Well Locations
Figure 3 - Groundwater Contour Map for Zones B and C- October 2004
Table 1 - Groundwater Parameter and Total Organic Carbon Results
Table 2 - Inorganic Analytical Results
Table 3 - Volatile Organic Compound Analytical Results
Table 4 - Permanent Gas Analytical Results
Appendix A - Laboratory Reports and Chain-of Custody Documents

FIGURES

Figures



Base map download from 'Tiger File' data website hosted by ESRI.

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SITE LOCATION

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE
1

DATE: 11/5/03 | 13:36 | PRJ#: CA 594.03.01 | DWG: G:\drawings\project\boeing\2003\sl-1 | FILE: | CHK: LOTHMAN | PM: NGUYEN | ART: QUINONES

DATE: 10/25/04 | 11:30 | PRJ#: CA 594.03.05 | DWG: G:\dwgs\oprjct\boeing\2003\Site Map-survey-coords-3-rev1 | FILE: | CHK: LOTHMAN | PM: NGUYEN | ART: QUINONES

KNOX ST.

HARBORGATE WAY

BUILDING A

BUILDING B

VAULT 1

VAULT 2

VAULT 3

VAULT 4

VAULT 5

BIO

IRZMW001

IRZMW002

IRZMW003

IRZMW004

IRZMW005

MW005

CMW026

IRZCMW001

IRZCMW002

IRZCMW003

XPWR SLAB BOX

LEGEND

- IRZCMW005 — BIOGROUNDWATER MONITORING WELL
- IRZ030A/B — DUAL BIOINJECTION POINT
- IRZ231 — SINGLE BIOINJECTION POINT
- AMENDMENT POINTS TAKEN OUT OF SERVICE
- AMENDMENT POINTS REQUIRING MODERATE INJECTION PRESSURE
- AMENDMENT POINTS THAT SIPHON DURING INJECTION
- VAULT 1 — FLUSH MOUNTED VAULT FOR SUBSURFACE REMEDIATION PIPING
- —BIO— BIOREMEDIATION SYSTEM PIPING

N

0 80 160
SCALE IN FEET

ALL DIMENSIONS AND LOCATIONS APPROXIMATE

BASE MAP PROVIDED BY HILL PINKERT ARCHITECTS, INC. IN FEBRUARY 2003

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AMENDMENT POINT AND MONITORING WELL LOCATIONS

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE
2

BOE-C6-0066988

KNOX ST.

HARBORGATE WAY

XFMR SLAB BOX

VAULT 1

VAULT 2

VAULT 3

VAULT 4

VAULT 5

BUILDING A

BUILDING B

MW005

MWC015

TMW-6

IRZMW001 (-13.97)

IRZMW002 (-13.82)

IRZMW003 (-13.89)

IRZMW004 (-14.22)

IRZMW005 (-14.17)

IRZCMW001 (-14.38)

CMW026

IRZCMW003 (-14.42)

IRZCMW002 (-14.62)

-13.90

-14.00

-14.10

-14.20

-14.40

-14.50

-14.60

BIO

LEGEND

- IRZCMW005 — BIOGROUNDWATER MONITORING WELL
- (-14.22) — GROUNDWATER ELEVATION IN FEET BELOW MEAN SEA LEVEL
- GROUNDWATER MONITORING WELL
- IRZ030A/B — DUAL BIOINJECTION POINT
- IRZ031 — SINGLE BIOINJECTION POINT
- AMENDMENT POINTS TAKEN OUT OF SERVICE
- AMENDMENT POINTS REQUIRING MODERATE INJECTION PRESSURE
- AMENDMENT POINTS THAT SIPHON DURING INJECTION
- VAULT 1 — FLUSH MOUNTED VAULT FOR SUBSURFACE REMEDIATION PIPING
- BIO — BIOREMEDIATION SYSTEM PIPING
- ZONE B CONTOUR OF EQUAL GROUNDWATER SURFACE ELEVATION IN FEET BELOW MEAN SEA LEVEL
- ZONE C CONTOUR OF EQUAL GROUNDWATER SURFACE ELEVATION IN FEET BELOW MEAN SEA LEVEL

N

0 60 120
SCALE IN FEET

ALL DIMENSIONS AND LOCATIONS APPROXIMATE

BASE MAP PROVIDED BY HILL PINKERT ARCHITECTS, INC. IN FEBRUARY 2003

ARCADIS

GROUNDWATER CONTOUR MAP FOR ZONES B AND C OCTOBER 2004

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE 3

DATE: 1/24/05 | 11:30 | PRJ#: CA 594.06.07 | DWG: G:\dwgs\oprjct\boeing\2005\GW1004-ZonesB-C | FILE: | CHK: POLEY | PM: NGUYEN | ART: QUINONES

BOE-C6-0066869

TABLES

Tables

Table 1. Groundwater Parameter and Total Organic Carbon Results
Former Building 2 Area, Former Boeing C-6 Facility

Well Number	Sampling Event	Sample Date	Top of Casing (feet msl)	Depth to Water (feet)	Groundwater Elevation (feet msl)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Temperature (°C)	Specific Conductance (umhos/cm)	Total Organic Carbon (mg/L)
IRZMW001A	Baseline	10/30/2003	54.18	68.05	-13.87	6.7	4.8	245.9	21.85	2,354	5.0
	Injection Evaluation	5/21/2004		68.61	-14.43	7.1	2.7	47.4	25.27	2,595	5.5
	Injection Evaluation	10/12/2004		67.69	-13.51	6.0	1.2	-31.6	21.02	2,538	3.5
	Week 2	10/22/2004		68.00	-13.82	6.9	0.3	-10.1	25.64	2,339	4.3
	Week 6	11/18/2004		68.08	-13.90	6.9	1.5	33.1	27.13	2,048	5.3
IRZMW001B	Baseline	10/30/2003	54.1	67.98	-13.88	6.8	6.2	159.6	21.8	1,254	3.8
	Injection Evaluation	5/21/2004		68.11	-14.01	7.3	6.8	78.3	23.7	1,278	3.6
	Injection Evaluation	10/12/2004		67.70	-13.60	7.3	2.2	5.6	21.4	1,042	5.8
	Week 2	10/22/2004		68.07	-13.97	7.3	4.0	53.7	22.7	1,168	2.0
	Week 6	11/18/2004		68.00	-13.90	7.2	6.6	125.0	24.2	953	5.2
IRZMW002A	Baseline	10/30/2003	54.07	67.98	-13.91	6.8	3.1	-140.7	22.1	1,852	21.8
	Injection Evaluation	5/21/2004		68.39	-14.32	7.2	0.9	-52.5	22.1	2,038	13.3
	Injection Evaluation	10/12/2004		67.85	-13.78	6.1	1.1	-54.1	21.5	2,760	11.1
	Week 2	10/21/2004		68.05	-13.98	6.4	0.2	-107.4	23.5	2,860	10.1
	Week 6	11/18/2004		68.21	-14.14	6.5	2.2	-102.7	25.8	2,220	9.7
IRZMW002B	Baseline	10/30/2003	54.17	68.07	-13.90	6.8	4.1	110.3	21.7	1,125	4.1
	Injection Evaluation	5/21/2004		68.97	-14.80	7.2	4.2	45.5	24.0	1,204	5.2
	Injection Evaluation	10/12/2004		67.61	-13.44	7.1	1.3	8.6	21.5	1,254	6.2
	Week 2	10/21/2004		67.99	-13.82	7.3	2.4	-34.3	25.5	1,325	2.8
	Week 6	11/18/2004		68.18	-14.01	7.1	4.6	48.3	24.1	1,067	4.6
IRZMW003A	Baseline	10/31/2003	54.14	68.21	-14.07	6.8	4.0	210.3	25.7	1,761	2.6
	Injection Evaluation	10/12/2004		67.79	-13.65	6.1	1.1	-8.9	21.6	3,107	5.7
IRZMW003B	Baseline	10/31/2003	54.20	68.24	-14.04	6.8	5.0	280.4	23.3	1,154	3.8
	Injection Evaluation	10/12/2004		67.82	-13.62	7.2	3.9	-10.6	22.7	1,276	3.4
IRZMW004	Baseline	10/7/2003	50.48	64.84	-14.36	7.0	4.8	152.9	22.5	1,449	3.1
	Injection Evaluation	10/12/2004		64.45	-13.97	7.2	2.5	-40.9	24.1	1,337	2.3
	Alt. Amend. Monitoring	12/14/2004		64.63	-14.15	7.2	4.2	-28.6	23.7	1,473	3.6
IRZMW005	Baseline	10/9/2003	50.19	64.44	-14.25	7.1	5.3	40.8	21.6	1,591	3.9
	Injection Evaluation	5/21/2004		64.52	-14.33	7.3	5.8	89.6	21.7	1,546	5.6
	Injection Evaluation	10/12/2004		64.14	-13.95	6.0	1.3	-20.0	24.9	1,972	5.2
	Week 2	10/22/2004		64.36	-14.17	6.8	0.4	-105.7	24.1	1,954	3.1
	Week 6	11/19/2004		64.31	-14.12	6.2	0.8	-19.7	24.8	1,747	9.7
	Alt. Amend. Monitoring	12/14/2004		64.29	-14.10	6.6	0.6	-42.7	23.6	1,818	5.5

Table 1. Groundwater Parameter and Total Organic Carbon Results
Former Building 2 Area, Former Boeing C-6 Facility

Well Number	Sampling Event	Sample Date	Top of Casing (feet msl)	Depth to Water (feet)	Groundwater Elevation (feet msl)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Temperature (°C)	Specific Conductance (umhos/cm)	Total Organic Carbon (mg/L)
IRZB0081	Baseline	10/9/2003	50.28	64.53	-14.25	6.7	5.1	144.4	21.6	1,563	5.8
	Week 2	10/22/2004		64.51	-14.23	7.3	3.7	-42.8	22.6	922	2.8
	Alt. Amend. Monitoring	12/14/2004		64.48	-14.20	5.2	1.8	-53.0	21.9	8,147	4,560
IRZB0095	Baseline	10/7/2003	50.08	64.59	-14.51	7.0	5.6	83.7	23.1	1,435	3.0
	Week 2	10/22/2004		64.50	-14.42	7.4	5.1	-47.1	22.2	661	2.4
	Week 6	11/19/2004		64.37	-14.29	7.4	6.7	67.2	22.1	1,142	4.4
	Alt. Amend. Monitoring	12/14/2004		64.49	-14.41	7.4	4.9	-5.4	22.2	1,296	3.3
IRZCMW001	Baseline	10/8/2003	49.14	63.65	-14.51	7.1	4.2	183.0	21.7	1,219	3.3
	Injection Evaluation	10/12/2004		NM	NM	7.2	2.5	-12.0	22.3	1,313	2.5
	Week 6	11/18/2004		63.52	-14.38	7.2	1.5	46.9	24.2	1,117	2.3
IRZCMW002	Baseline	10/8/2003	52.98	67.78	-14.80	7.0	2.4	188.5	21.4	888	3.2
	Injection Evaluation	10/12/2004		67.25	-14.27	7.4	1.1	-51.0	21.4	974	2.2
IRZCMW003	Baseline	10/7/2003	49.12	63.58	-14.46	7.2	2.7	133.5	22.8	951	2.0
	Injection Evaluation	10/12/2004		62.98	-13.86	7.3	1.1	-7.5	22.3	969	2.4
CMW0026	Baseline	10/7/2003	48.94	63.38	-14.44	7.2	4.5	34.0	22.3	965	2.0
	Week2	10/22/2004		63.33	-14.39	7.2	1.1	-86.7	22.7	123	1.6
	Week 6	11/19/2004		63.28	-14.34	7.1	0.7	-202.7	24.0	384	10.7
EPA Analytical Method				N/A	N/A	N/A	N/A	N/A	N/A	N/A	9060

Notes:
Wells micropurged then sampled, except grab bailer samples collected 10/12/04.
Group A: wells located within the estimated injection area
Group B: wells located at the estimated edge of the injection area
Group C: wells located downgradient of the treatment area
Group D: wells located upgradient of the treatment area
feet msl - feet above mean sea level

mg/L - milligrams per liter
mV - millivolts
°C - degrees Celsius
NA - Not applicable

Table 2. Inorganic Analytical Results
Former Building 2 Area, Boeing C-6 Facility

Well Number	Screened Zone	Well Group	Sampling Event	Sample Date	Bromide (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
IRZB0081	Zone B	A	Baseline	10/9/2003	0.94	0.05	8.50	43.8
IRZB0095		A	Baseline	10/7/2003	0.85	0.05	7.20	38.6
			Week 6	11/19/2004	0.64	0.016	6.5 J	49.7
IRZMW001A		A	Baseline	10/30/2003	3.6	0.019	13.6	88.6
			Week 6	11/18/2004	1.9	0.064	8.8 J	60.2
IRZMW001B		A	Baseline	10/30/2003	0.73	0.020	5.8	98.0
			Week 6	11/18/2004	0.41 B	0.0041 B	6.8 J	87.9
IRZMW002A		A	Baseline	10/30/2003	2.3	3.6	0.13	77.8
			Week 6	11/18/2004	1.7	2.1	4.3 J	64.6
IRZMW002B		A	Baseline	10/30/2003	0.94	0.15	6.9	80.9
			Week 6	11/18/2004	0.66	0.035	8.6 J	98.1
IRZMW005		A	Baseline	10/9/2003	0.97	0.05	8.50	43.8
			Week 6	11/19/2004	0.98	0.05	4.7 J	36.0
IRZMW003A		B	Baseline	10/31/2003	1.1	0.0069 B	9.6	48.3
IRZMW003B		B	Baseline	10/31/2003	0.69	0.051	6.3	77.9
IRZMW004		C	Baseline	10/7/2003	0.89	0.01	8.1	41.2
CMW026	Zone C	A	Baseline	10/7/2003	0.55	0.01	2.80	34.2
			Week 6	11/19/2004	0.18 B	0.38	0.066 B,J	4.0
IRZCMW003		B	Baseline	10/7/2003	0.51	0.02	1.60	49.8
IRZCMW002		C	Baseline	10/8/2003	0.37	0.10	2.50	62.5
CMW001		C	Baseline	10/9/2003	0.97	0.02	8.60	41.6
CMW002		C	Baseline	10/8/2003	0.24	0.21	ND	84.9
IRZCMW001		D	Baseline	10/8/2003	0.73	0.01	2.70	37.7
			Week 6	11/8/2004	0.67	0.0022 B	2.2 J	37.2
EPA Analytical Method					300.0A	6010A	300.0A	300.0A

Notes:
Group A: wells located within the estimated injection area
Group B: wells located at the estimated edge of the injection area
Group C: wells located downgradient of the treatment area
Group D: wells located upgradient of the treatment area
<1.0 - Not detected above indicated reporting limit
J - Method blank contamination. The method blank contains the target analyte at a reportable level.
B - estimated result less than reporting limit

Table 3. Volatile Organic Compound Analytical Results
Former Building 2 Area, Boeing C-6 Facility

Well Number	Screened Zone	Well Group	Sampling Event	Sample Date	Acetone (ug/L)	Chlorobenzene (ug/L)	Tricloroethene (ug/L)	Chloroform (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)	1,1,2-TCA (ug/L)	cis-1,2-DCE (ug/L)	1,1-DCE (ug/L)	Methylene Chloride (ug/L)	trans-1,2-DCE (ug/L)	Vinyl Chloride (ug/L)
IRZB0081	Zone B	A	Baseline	10/9/2003	<1,700	<170	**6,500**	**50 J**	<170	<170	<170	<170	**63 J**	<170	<170	<170
			Alt. Amend. Monitoring	12/14/2004	<1,200	<120	**5,300**	<120	<120	<120	<120	**89 J**	**60 J**	<120	<120	<120
IRZB0095		A	Baseline	10/7/2003	<1,200	<120	**5,800**	**150**	<120	<120	<120	<120	**49 J**	**150**	<120	<120
			Week 6	11/19/2004	<1,000	<100	**3,900**	**85 J**	<100	<100	<100	<100	**64 J**	<100	<100	<100
			Alt. Amend. Monitoring[1]	12/14/2004	<830	<83	**4,300**	**96**	<83	<83	<83	<83	**68 J**	<83	<83	<83
IRZMW001A		A	Baseline	10/30/2003	<5,000	<500	**11,000**	<500	<500	<500	<500	<500	<500	<500	<500	<500
			Week 6	11/18/2004	<1,200	<120	**7,200**	<120	<120	<120	<120	**43 J**	**77 J**	<120	<120	<120
IRZMW001B		A	Baseline	10/30/2003	<1,200	<120	**4,800**	<120	<120	<120	<120	**54 J**	**50 J**	<120	<120	<120
			Week 6	11/18/2004	<250	<25	**1,400**	<25	<25	<25	<25	<25	**19 J**	<25	<25	<25
IRZMW002A		A	Baseline	10/30/2003	<1,200	<120	**5,100**	<120	<120	<120	<120	**660**	**63 J**	<120	<120	<120
			Week 6	11/18/2004	<2,000	<200	**8,300**	<200	<200	<200	<200	**220**	**79 J**	<200	<200	<200
IRZMW002B		A	Baseline	10/30/2003	**73 JB**	<12	**640**	<12	<12	<12	<12	**80**	**8.5 J**	<12	<12	<12
			Week 6	11/18/2004	<50	<5	**230**	<5	<5	<5	<5	**13**	**3.0 J**	<5	<5	<5
IRZMW005		A	Baseline	10/9/2003	<1,700	<170	**6,000**	**56 J**	<170	<170	<170	<170	**75 J**	<170	<170	<170
			Week 6	11/19/2004	<1,200	<120	**6,500**	**51 J**	<120	<120	<120	**61 J**	**74 J**	<120	<120	<120
			Alt. Amend. Monitoring	12/14/2004	<1,700	<170	**7,300**	**54 J**	<170	<170	<170	**170**	**84 J**	<170	<170	<170
IRZMW003A		B	Baseline	10/31/2003	**3,200 JB**	<500	**20,000**	<500	<500	<500	<500	<500	**180 J**	<500	<500	<500
IRZMW003B		B	Baseline	10/31/2003	**130 JB**	<25	**1,000**	<25	<25	<25	<25	<25	**19 J**	<25	<25	<25
IRZMW004		C	Baseline	10/7/2003	<2,500	<250	**8,700**	**110 J**	<250	<250	<250	<250	**81 J**	<250	<250	<250
			Alt. Amend. Monitoring[2]	12/14/2004	<1,700	<170	**6,600**	**120 J**	<170	<170	<170	<170	**96 J**	<170	<170	<170
CMW026	Zone C	A	Baseline	10/7/2003	<250	<25	**1,200**	**21 J**	<25	<25	<25	<25	**65**	<25	<25	<25
			Week 6	11/19/2004	<50	<5	**35**	<5	**1.5 J**	<5	<5	**280**	**41**	<5	**2.6 J**	<5.0
IRZCMW003		B	Baseline	10/7/2003	<1,000	<100	**2,900**	**36 J**	<100	<100	<100	<100	**83 J**	**89 J**	<100	<100
IRZCMW002		C	Baseline	10/8/2003	<1,000	<100	**4,600**	**36 J**	<100	<100	<100	<100	**39 J**	<100	<100	<100
CMW001		C	Baseline	10/9/2003	<1,200	**7,300**	<120	**60 J**	<120	<120	<120	<120	<120	<120	<120	<120
CMW002		C	Baseline	10/8/2003	<1,000	**3,600**	**460**	<100	<100	<100	<100	<100	<100	<100	<100	<100
IRZCMW001		D	Baseline	10/8/2003	**210 J**	<62	**1,300**	**76**	**13 J**	<62	<62	**22 J**	**350**	<62	<62	<62
			Week 6	11/18/2004	<120	<12	**920**	**44**	**8.6 J**	**6.4 J**	**4.7 J**	**15**	**200**	<12	**6.3 J**	<12
EPA Analytical Method					8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B

Notes:

Group A: wells located within the estimated injection area

Group B: wells located at the estimated edge of the injection area

Group C: wells located downgradient of the treatment area

Group D: wells located upgradient of the treatment area

ug/L - micrograms per liter

< - not detected above indicated reporting limit

DCA - dichloroethane

DCE - dichloroethene

J - estimated result less than reporting limit

JB - acetone detected at 11 ug/L in trip blank

[1]Groundwater was also found to contain total xylenes at 67 ug/L (J), naphthalene at 99 ug/L, 1,2,4-trimethylbenzene at 120 ug/L, and 1,3,5-trimethylbenzene at 30 ug/L (J).

[2]Groundwater was also found to contain 1,2,4-trimethylbenzene at 52 ug/L (J).

Table 4. Permanent Gas Analytical Results
Former Building 2 Area, Boeing C-6 Facility

Well Number	Screened Zone	Well Group	Sampling Event	Sample Date	Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Nitrogen (mg/L)	Methane (ug/L)	Ethane (ug/L)	Ethene (ug/L)
IRZB0081	Zone B	A	Baseline	10/9/2003	3.70	16.9	12.6	<0.2	0.06	0.11
IRZB0095		A	Baseline	10/7/2003	2.67	14.0	8.7	<0.2	0.05	0.08
			Week 6	11/19/2004	2.90	10.8	7.8	1.1	0.02	0.02
IRZMW001A		A	Baseline	10/30/2003	1.16	27.4	10.0	2.9	0.07	0.05
			Week 6	11/18/2004	0.48	27.0	3.7	1.8	0.01	<0.01
IRZMW001B		A	Baseline	10/30/2003	4.05	21.2	12.4	0.4	0.04	0.02
			Week 6	11/18/2004	3.32	14.8	7.9	<0.2	0.01	<0.01
IRZMW002A		A	Baseline	10/30/2003	0.62	39.1	8.7	4.0	1.17	3.25
			Week 6	11/18/2004	0.53	102.8	2.5	5.2	0.02	0.12
IRZMW002B		A	Baseline	10/30/2003	3.38	16.6	16.1	6.0	1.34	2.05
			Week 6	11/18/2004	1.58	14.4	4.7	1.3	0.02	0.02
IRZMW005		A	Baseline	10/9/2003	4.97	16.3	14.0	<0.2	0.06	0.07
			Week 6	11/19/2004	0.24	207.6	3.6	234	<0.01	0.02
IRZMW003A		B	Baseline	10/31/2003	3.06	25.3	15.6	0.5	0.17	0.10
IRZMW003B		B	Baseline	10/31/2003	3.65	18.4	11.5	0.7	0.09	0.08
IRZMW004		C	Baseline	10/7/2003	2.74	15.3	8.4	0.3	0.05	0.06
CMW026	Zone C	A	Baseline	10/7/2003	2.47	6.7	14.8	0.9	0.52	0.04
			Week 6	11/19/2004	0.27	13.8	8.2	1,994	<0.01	0.21
IRZCMW003		B	Baseline	10/7/2003	1.11	7.1	12.1	1.6	0.95	0.88
IRZCMW002		C	Baseline	10/8/2003	0.94	7.2	15.2	0.6	0.43	1.21
CMW001		C	Baseline	10/9/2003	1.74	9.1	13.4	4.8	1.54	2.34
CMW002		C	Baseline	10/8/2003	2.48	11.4	16.1	0.9	0.14	1.04
IRZCMW001		D	Baseline	10/8/2003	3.10	13.2	14.9	0.3	0.11	0.18
			Week 6	11/18/2004	0.98	13.0	7.1	503	<0.01	0.07
Analytical Method					RSK 175	RSK 175	RSK 175	RSK 175	RSK 175	RSK 175

Notes:
Group A: wells located within the estimated injection area
Group B: wells located at the estimated edge of the injection area
Group C: wells located downgradient of the treatment area
Group D: wells located upgradient of the treatment area
mg/L - milligrams per liter
ug/L - micrograms per liter
< - Not detected above indicated reporting limit

APPENDIX A

ARCADIS

Appendix A

Laboratory Reports and Chain of Custody Documents